

ProNode™

PRESSURE VESSEL MAGNESIUM ANODE

PRODUCT DESCRIPTION

Magnesium anodes can be used to provide cathodic protection for metallic structures exposed to suitable water environments. They are suitable for use in pressure vessels and similar water-containing equipment, such as heat exchangers and condensers.

Due to the high electrochemical activity of magnesium, these anodes may be consumed rapidly in saltwater environments and are therefore not recommended for saltwater service.

PRODUCT PERFORMANCE

Current Control Performance

- Epoxy coating on selected non-active surfaces acts as a current barrier, helping control exposed anode area and current distribution.

Protection Effectiveness

- Provides reliable cathodic protection performance when properly selected and installed under designed operating conditions.



PRODUCT FEATURES

Coating Configuration

- Available in bare or epoxy-coated configurations to suit different application requirements.

Installation & Reliability

- Designed for straightforward installation, with stable and reliable protection performance under designed operating conditions.

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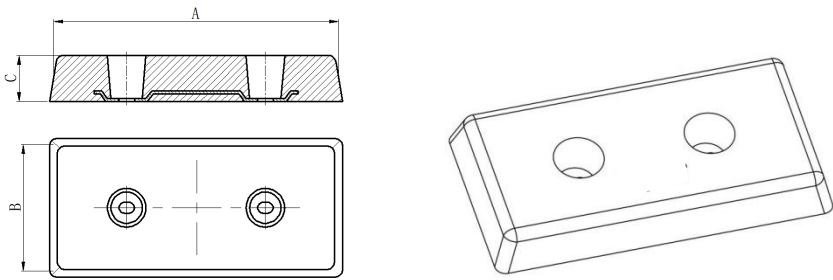
PRESSURE VESSEL MAGNESIUM ANODE

Reference	Title
ASTM B843	STANDARD SPECIFICATION FOR MAGNESIUM ALLOY ANODES FOR CATHODIC PROTECTION
AS 2239	GALVANIC (SACRIFICIAL) ANODES FOR CATHODIC PROTECTION

PRODUCT PARAMETERS

Chemical Composition and Electrochemical Properties						
High Potential Magnesium Alloy Sacrificial Anode				Standard Potential Magnesium Alloy Sacrificial Anode		
Alloy		M1C		Alloy	AZ63B	
Design Requirements	Chemical Composition	Al	≤0.01%	Chemical Composition	Al	5.30-6.70%
		Mn	0.50-1.30%		Zn	2.50-3.50%
		Cu	≤0.005%		Mn	0.15-0.70%
		Si	≤0.05%		Si	≤0.10%
		Ni	≤0.001%		Cu	≤0.02%
		Fe	≤0.01%		Ni	≤0.002%
		Other Impurities (each)	≤0.05%		Fe	≤0.003%
		Other Impurities (total)	≤0.30%		Other Impurities (total)	≤0.30%
		Mg	Remainder		Mg	Remainder
	Properties Electrochemical	Open-circuit Potential (V, SCE)	-1.75 to -1.70	Properties Electrochemical	Open-circuit Potential (V, SCE)	-1.55 to -1.50
		Closed-circuit Potential (V, SCE)	-1.62 to -1.58		Closed-circuit Potential (V, SCE)	-1.50 to -1.45
		Current Capacity (A.h/kg)	1100		Current Capacity (A.h/kg)	1230
Current Efficiency (%)		50	Current Efficiency (%)		55	

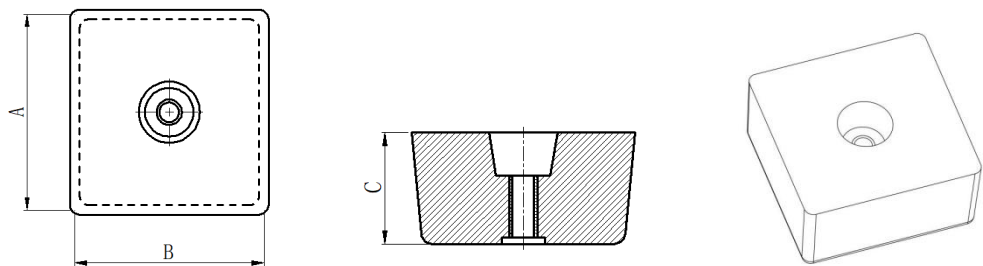
MODELS AND SPECIFICATIONS



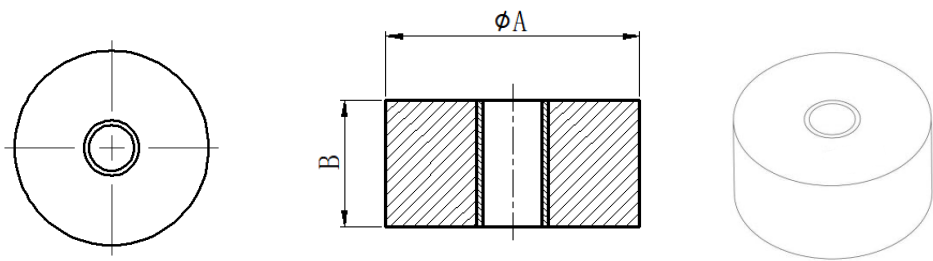
Model	Anode Size / mm			Anode Weight / kg
	A	B	C	
ATMG-5S	300	150	30	2.2
ATMG-14.5S	300	200	65	6.5

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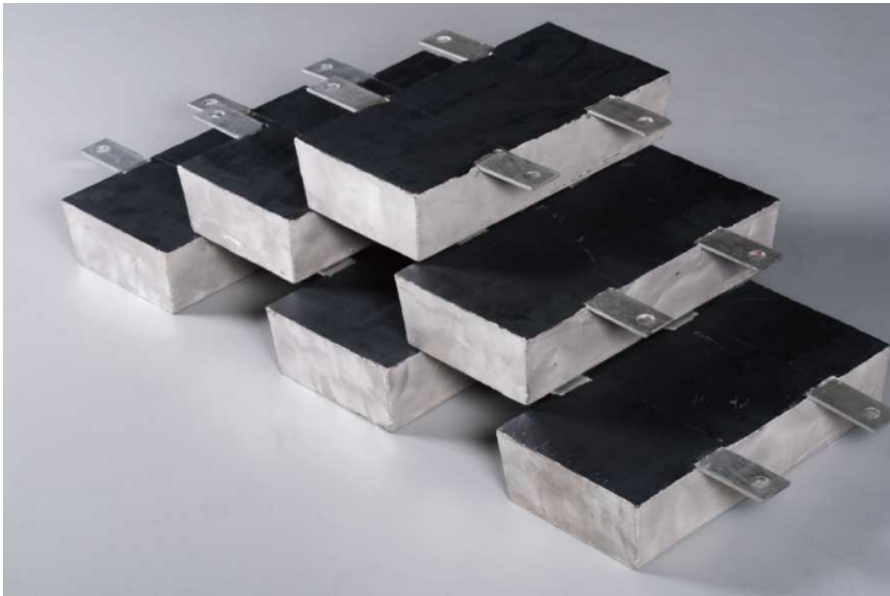
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Model	Anode Size / mm			Anode Weight / kg
	A	B	C	
ATMG-7.5S	203	203	51	3.4
ATMG-15S	203	203	102	6.8



Model	Anode Size / mm		Anode Weight / kg
	A	B	
ATMG-5R	127	102	2.2



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